topping heater, and said high temperature water cracking system, said feed water disassociated into hydrogen and oxygen in said high temperature water cracking system.

25. (twice amended) A system for generating hydrogen comprising:

feed water;

a liquid metal nuclear reactor having a non-radioactive secondary heat loop;

a steam generator connected to said secondary heat loop, said steam generator capable of raising the temperature of said feed water to between about 450°C to about 550°C;

a high temperature water cracking system, said feed water coupled to said water cracking system by a feed water input line; and

a topping heater, said topping heater capable of raising the temperature of said feed water so that said feed water in said high temperature water cracking system is at least about 850°C, said feed water input line coupled in flow communication with said steam generator, said topping heater, and said high temperature water cracking system, said feed water disassociated into hydrogen and oxygen in said high temperature water cracking system.

Remarks

The Office Action dated August 14, 2002 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-35 are pending in this application. Claims 1-11 and 25-33 stand rejected. Claims 12-24 and 34-35 are withdrawn from consideration.

Submitted herewith is a Submission Of Marked Up Claims in accordance with 37 C.F.R. § 1.121(c)(1)(ii).